



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2013-0544; Directorate Identifier 2012-NM-057-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777-200 series airplanes. This proposed AD was prompted by reports of smoke or flames in the passenger cabin of various transport category airplanes, related to the wiring for the passenger cabin in-flight entertainment (IFE) system, cabin lighting, and passenger seats. This proposed AD would require, for certain airplanes, doing an inspection of the electrical power control panel for a certain part number, and corrective action if necessary; and for certain other airplanes, installing a new electrical power control panel, and making changes to the wiring and certain electrical load management system (ELMS) panels. We are proposing this AD to ensure that the flightcrew is able to turn off electrical power to the IFE systems and other non-essential electrical systems through a switch in the flight compartment in the event of smoke or flames. In the event of smoke or flames in the airplane flight deck or passenger cabin, the flightcrew's inability to turn off electrical power to the IFE system and other non-essential electrical systems could result in the inability to control smoke or flames in the airplane flight deck or passenger cabin during a non-normal or emergency situation, and consequent loss of control of the airplane.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-2112.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Ray Mei, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office,

1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6467;
fax: 425-917-6590; email: raymont.mei@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2013-0544; Directorate Identifier 2012-NM-057-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We have received reports of smoke or flames in the passenger cabin of various transport category airplanes (The Boeing Company Model MD-11 and DC-9 airplanes and Lockheed Martin Corporation/Lockheed Martin Aeronautics Company Model L-1011 series airplanes), related to the wiring for the passenger cabin IFE system, cabin lighting, and passenger seats. In response to these reports of smoke or flames in the passenger cabin of various models of transport category airplanes, we conducted a comprehensive IFE systems review.

The systems review determined that, in order to minimize the risk of smoke or flames in the passenger cabin, a switch is needed in the flight compartment to enable the flightcrew to turn off electrical power to the IFE system and other non-essential electrical

systems. In the event of smoke or flames in the airplane flight deck or passenger cabin, the flightcrew's inability to turn off power to the IFE system and other non-essential electrical systems could result in the inability to control smoke or flames in the airplane flight deck or passenger cabin during a non-normal or emergency situation.

Other Relevant Rulemaking

- For certain The Boeing Company Model 777-200 and -300 series airplanes:
We have issued an NPRM (78 FR 27310, May 10, 2013), which proposes to require installing wiring and changing certain electrical load management system (ELMS) panels and other actions to ensure that the flightcrew is able to turn off electrical power to the IFE systems and other non-essential electrical systems through a switch in the flight compartment in the event of smoke or flames.

- For The Boeing Company Model 757-200 and -300 series airplanes:
AD 2007-16-12, Amendment 39-15151 (72 FR 44740, August 9, 2007), requires changes to existing wiring; installation of new circuit breakers, relays, relay connectors, and wiring; and replacement of certain circuit breakers with higher-rated circuit breakers. For certain airplanes, this AD also requires modification of wiring of the control module assembly for the electrical systems.

- For The Boeing Company Model 767-200, -300, and -400ER series airplanes:
AD 2008-23-15, Amendment 39-15736 (73 FR 70267, November 20, 2008), requires installing new relay(s), circuit breakers as applicable, and wiring to allow the flightcrew to turn off electrical power to the IFE systems and certain circuit breakers through a utility bus switch, and doing other specified actions.

- For The Boeing Company Model 737-300, -400, -500, -600, -700, -700C, -800, and -900 series airplanes: AD 2009-12-06, Amendment 39-15929 (74 FR 27698, June 11, 2009), requires installing a new circuit breaker, relays, and wiring to allow the flightcrew to turn off electrical power to the IFE systems and other non-essential

electrical systems through a switch in the flight compartment, and doing other specified actions.

- For The Boeing Company Model 747-400 and -400D series airplanes:

AD 2009-15-12, Amendment 39-15975 (74 FR 35789, July 21, 2009), requires installing new relays to allow the flightcrew to turn off electrical power to the IFE system and other non-essential passenger cabin systems through the left and right utility bus switches, and other specified actions.

- For certain The Boeing Company Model 777-200 and -300 series airplanes:

We have issued an NPRM (78 FR 27310, May 10, 2013), which proposes to require installing wiring and changing certain electrical load management system (ELMS) panels and other actions to ensure that the flightcrew is able to turn off electrical power to the IFE systems and other non-essential electrical systems through a switch in the flight compartment in the event of smoke or flames.

Relevant Service Information

We reviewed Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012. For information on the procedures and compliance times, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2013-0544.

Concurrent Service Information

Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012, specifies concurrent or prior accomplishment of Boeing Service Bulletin 777-23-0176, Revision 2, dated October 26, 2006; and Boeing Service Bulletin 777-24-0087, Revision 2, dated August 16, 2007. For information on the procedures, see this service information at <http://www.regulations.gov> by searching for Docket No. FAA-2013-0544.

Other Service Information

BAE Systems Service Bulletin 233W3202-24-04, Revision 2, dated October 2, 2006, specifies identifying the electrical power control panels 233W3202-12 and 233W3202-13.

GE Aviation Service Bulletin 6000ELM-24-614, Revision 1, dated November 9, 2009, specifies putting the P210 power panel back to the correct standard.

GE Aviation Service Bulletin 6200ELM-24-616, Revision 1, dated March 5, 2010, specifies putting the P210 power panel back to the correct standard.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously.

The phrase "related investigative actions" might be used in this proposed AD. "Related investigative actions" are follow-on actions that (1) are related to the primary action, and (2) are actions that further investigate the nature of any condition found. Related investigative actions in an AD could include, for example, inspections.

In addition, the phrase "corrective actions" might be used in this proposed AD. "Corrective actions" are actions that correct or address any condition found. Corrective actions in an AD could include, for example, repairs.

Costs of Compliance

We estimate that this proposed AD affects 49 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection/installation and changes	Up to 28 work-hours X \$85 per hour = \$2,380	\$1,436	Up to \$3,816	Up to \$186,984
Concurrent installation (Boeing Service Bulletin 777-23-0176, Revision 2, dated October 26, 2006)	2 work-hours X \$85 per hour = \$170	\$0	\$170	\$8,330
Concurrent installation (Boeing Service Bulletin 777-24-0087, Revision 2, dated August 16, 2007)	3 work-hours X \$85 per hour = \$255	\$0	\$255	\$12,495

We estimate the following costs to do any necessary change that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need this replacement:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Change part number	1 work-hour X \$85 per hour = \$85	\$0	\$85

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by

prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

The Boeing Company: Docket No. FAA-2013-0544; Directorate Identifier 2012-NM-057-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 777-200 series airplanes, certificated in any category, as specified in Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 24, Electrical power.

(e) Unsafe Condition

This AD was prompted by reports of smoke or flames in the passenger cabin of various transport category airplanes related to the wiring for the passenger cabin in-flight entertainment (IFE) system, cabin lighting, and passenger seats. We are issuing this AD to ensure that the flightcrew is able to turn off electrical power to the IFE systems and other non-essential electrical systems through a switch in the flight compartment in the event of smoke or flames. In the event of smoke or flames in the airplane flight deck or passenger cabin, the flightcrew's inability to turn off electrical power to the IFE system and other non-essential electrical systems could result in the inability to control smoke or

flames in the airplane flight deck or passenger cabin during a non-normal or emergency situation, and consequent loss of control of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Installation

For Group 1, Configuration 1, airplanes, as identified in Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012: Within 60 months after the effective date of this AD, install a new electrical power control panel and make changes to the wiring and certain electrical load management system (ELMS) panels, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012.

(h) Inspection

For Group 1, Configuration 2, airplanes, as identified in Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012: Within 60 months after the effective date of this AD, inspect the electrical power control panel to determine the part number, and do all applicable corrective actions, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012. Do all applicable corrective actions before further flight.

(i) Concurrent Actions

(1) For Group 1, Configuration 1, airplanes, as identified in Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012: Prior to or concurrently with accomplishing the requirements of paragraph (g) of this AD, install new operational software (OPS) in the cabin management system to change the operation of the cabin lighting system when the CABIN/UTILITY switch is installed, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-23-0176, Revision 2, dated October 26, 2006.

(2) For Group 1, Configuration 1, airplanes, as identified in Boeing Service Bulletin 777-24-0077, Revision 4, dated October 17, 2012: Concurrently with accomplishing the requirements of paragraph (g) of this AD, change the ELMS OPS and configuration database software (OPC) to decrease the number of ELMS P110, ELMS P210, and ELMS P310 panel engine indication and crew alerting system (EICAS) status messages, in accordance with the Accomplishment Instructions of Boeing Service Bulletin 777-24-0087, Revision 2, dated August 16, 2007.

(j) Credit for Previous Actions

(1) This paragraph provides credit for the actions specified in paragraphs (g) and (h) this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 777-24-0077, dated August 21, 2003; Revision 1, dated May 24, 2007; Revision 2, dated December 17, 2009; or Revision 3, dated December 6, 2011; which are not incorporated by reference in this AD; provided that, within 60 months after the effective date of this AD, the actions specified in paragraphs (j)(1)(i) and (j)(1)(ii) of this AD are done, and wire kit 280W5110-105W is used.

(i) Identify the electrical power control panels 233W3202-12 and 233W3202-13 in accordance with the Accomplishment Instructions of BAE Systems Service Bulletin 233W3202-24-04, Revision 2, dated October 2, 2006. The correct part number for the changed 233W3202-12 panel is 233W3202-18, and the correct part number for the changed 233W3202-13 panel is 233W3202-19.

(ii) Put back the P210 power panel to the correct standard, in accordance with the Accomplishment Instructions of GE Aviation Service Bulletin 6000ELM-24-614, Revision 1, dated November 9, 2009; or 6200ELM-24-616, Revision 1, dated March 5, 2010.

(2) This paragraph provides credit for the actions specified in paragraph (i)(1) of this AD, if those actions were performed before the effective date of this AD using

Boeing Service Bulletin 777-23-0176, dated January 9, 2003, or Revision 1, dated March 11, 2004; provided that the actions specified in Boeing Service Bulletin 777-23-0141, dated June 14, 2001, were done prior to or concurrently with the actions specified in Boeing Service Bulletin 777-23-0176, dated January 9, 2003, or Revision 1, dated March 11, 2004, which are not incorporated by reference in this AD.

(3) This paragraph provides credit for the actions specified in paragraph (i)(2) of this AD, if those actions were performed before the effective date of this AD using Boeing Service Bulletin 777-24-0087, dated July 24, 2003, or Revision 1, dated December 18, 2003; provided that the actions specified in Boeing Service Bulletin 777-24-0087, dated July 24, 2003, or Revision 1, dated December 18, 2003, were done concurrently with the actions specified in Boeing Service Bulletin 777-24-0077, dated August 21, 2003; Revision 1, dated May 24, 2007; Revision 2, dated December 17, 2009; Revision 3, dated December 6, 2011; or Revision 4, dated October 17, 2012.

(k) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in the Related Information section of this AD. Information may be emailed to:

9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes

Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane and the approval must specifically refer to this AD.

(I) Related Information

(1) For more information about this AD, contact Ray Mei, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6467; fax: 425-917-6590; email: raymont.mei@faa.gov.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P. O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet <https://www.myboeingfleet.com>. You may review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on June 26, 2013.

Jeffrey E. Duven,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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